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An asymptotic approximation of the Fokker-Planck model of evolution of superthermal ultrarelativistic particles in the presence of interaction scaling

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Abstract

The evolution of a superthermal relict plasma component is studied using a nonequilibrium model of the Universe [1] and a kinetic equation of the Fokker-Planck type [2]. Given is the evidence of two maxima in the distribution of superthermal particles. The first maximum can further evolve into an equilibrium distribution, whereas the second one can result in a high-energy tail of superthermal relict particles. © 2009 Springer Science+Business Media, Inc.

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Keywords

Cosmology, Gravitation theory, Relativistic kinetics, Scaling